PB-217 919

MISCELLANEOUS RESERVOIR WATER QUALITY DATA REPORT, 1964

Federal Water Pollution Control Administration
Portland, Oregon

February 1966

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MISCELLANEOUS RESERVOIR WATER QUALITY DATA REPORT
1964

Columbia River Basin Comprehensive Project
for Water Supply and Pollution Control

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February 1966

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MISCELLANEOUS RESERVOIR DATA REPORT
1964

The material contained in this report consists of raw field data acquired on miscellaneous reservoir field investigations performed in 1964.

The following studies are included:

Lookout Point Reservoir	-	July 1, 1964
Lookout Point Reservoir	-	July 29, 1964
Dexter Reservoir	-	July 29, 1964
Cougar Reservoir	-	July 2, 1964
Hills Creek Reservoir (above)	-	July 28, 1964
Hills Creek Reservoir	-	July 30, 1964
Snake River (Hells Canyon)	-	July 15-16, 1964

The data are arranged by survey (in above order), with the station data arranged with the downstream station first, and the remaining stations in upstream sequence.

With the exception of the plankton counts, all results were obtained in the field. Chemical analysis (alkalinity, phosphate, nitrate, and hardness) were measured with a Hach model DR-EL field laboratory.

The plankton counts were performed by using the following method: An aliquot portion of the 300 ml sample was vacuum-strained onto a membrane filter and placed on a microscope slide for examination. A single strip count of the organisms was made with a microscope, using an ocular and stage micrometer. A full description of the procedure is given in manuscript form by Bryant (available from this office).

Temperature versus depth was recorded on a bathythermograph.

Dissolved oxygen samples were dosed and titrated in the field, using the Altzerberg (azide) modification of the Winkler method.

pH was determined by use of a Hellige color comparator, model 600-CA.

Light penetration as percent of light remaining was recorded from readings of a Whitney deck-sea cell photometer, readings being recorded every two feet.

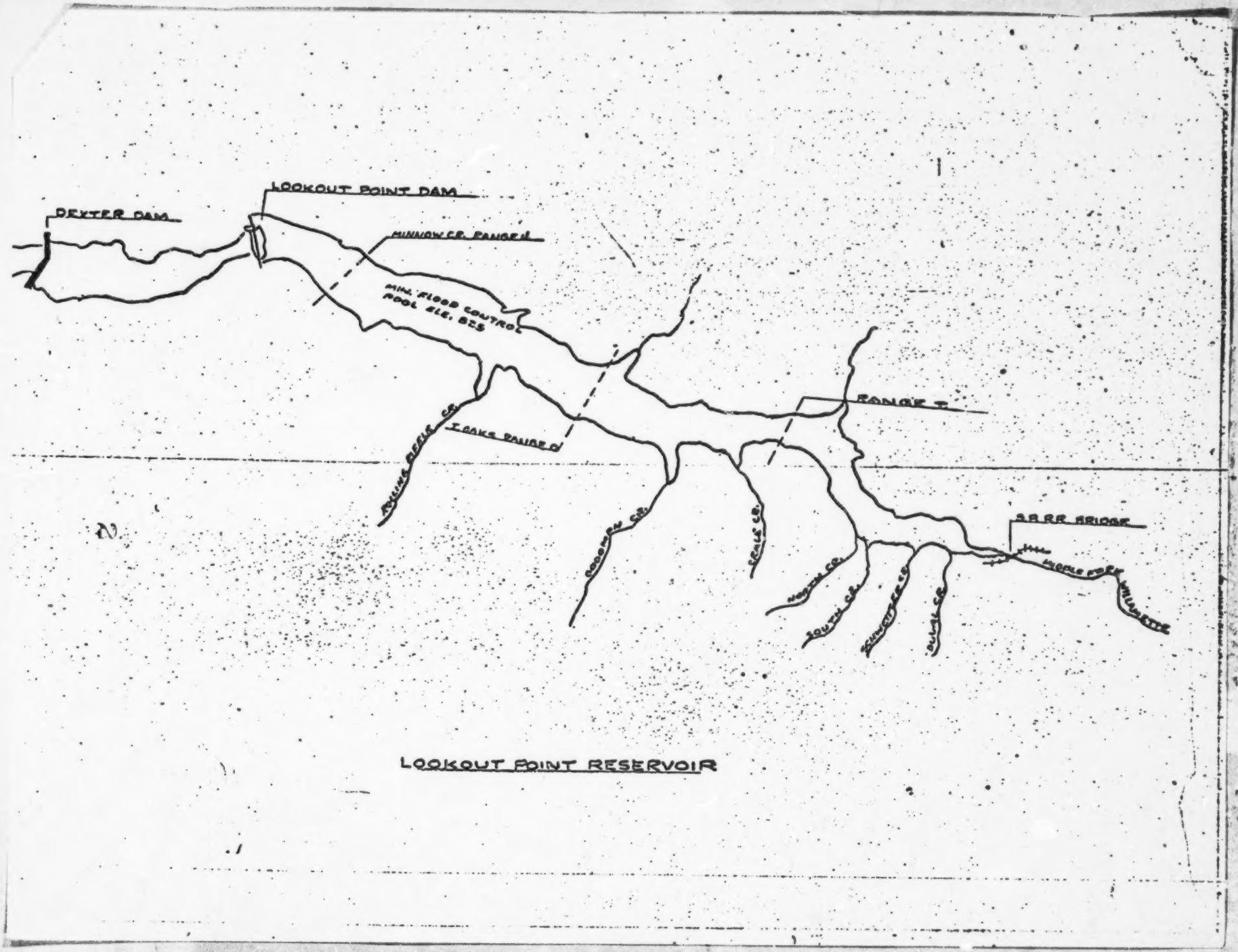
A Whitney conductivity-temperature probe was used to determine conductivity.

II

LOOKOUT POINT RESERVOIR WATER QUALITY DATA
July 1, 1964

Columbia River Basin Comprehensive Project
for Water Supply and Pollution Control

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Water Supply and Pollution Control
Pacific Northwest, Region IX
Portland, Oregon



LOOKOUT POINT RESERVOIR

LOOKOUT POINT RESERVOIR
7/1/64

STATION: RR Bridge at Hampton Landing
Time: 0940 Air Temperature: 57 °F.

Ft. Depth	Temp. °F	pH	DO mg/1	DO % Sat.
5	62.0	8.8	11.4	92
35	52.5	7.3	10.3	96

STATION: Log Boom
Time: 1300 Air Temperature: 69 °F.

Depth ft.	Temp. °F	pH	DO mg/1	DO % Sat.	Ft. →	% Light Penetration
5	62.1	8.3	10.9	115	1	83
25	57.7	7.5	10.5	105	2	63
50	52.7	7.0	10.2	95	4	40
100	50.0	7.0	10.5	95	6	30
150	47.8	7.0	10.6	94	10	15
200	44.4	6.8	9.9	93	15	5
					20	3

STATION: Range V
Time: 1520 Air Temperature: 65 °F.

Depth ft.	°F Temp.	pH	DO mg/1	DO % Sat.
5	64.8	8.4	11.8	128
25	58.0	8.4	11.3	113
50	52.0	7.3	10.6	98

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Hydrologic Data

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Project LOOKOUT POINT RESERVOIR 7-1-64 Comp.

Subject BT SOUNDINGS Chkd.

Date:

LOCATION	LOG BOOM CENTER	LOG BOOM SO. ⅓	LOG BOOM NO. ⅓	RANGE J	RANGE L	RANGE V					
TIME	1300	1415	1430	1440	1445	1515					
AIR TEMP	69	69	69	-	-	65					
DEPTH											
0	62.0	62.0	62.6	63.2	64.0	65.2					
5	61.6	61.6	61.6	63.0	64.0	64.8					
10	61.4	61.2	61.2	62.6	63.8	64.6					
15	61.0	61.0	61.0	61.4	63.0	64.0					
20	59.2	59.4	59.0	60.0	59.0	61.0					
25	57.8	58.0	56.2	57.8	56.4	58.0					
30	56.0	56.2	55.0	56.6	56.2	55.6					
35	55.0	55.0	54.4	55.2	55.0	54.0					
40	54.0	54.0	54.8	54.0	49.2	53.0					
45	53.0	53.6	54.6	53.8	53.6	52.4					
50	52.8	53.0	52.8	53.2	53.2	52.0					
60	52.0	51.8	52.0	52.0	52.0	51.2					
70	51.2	51.2	51.2	51.2	51.6						
80	50.8	50.8	50.8	51.0	51.0						
90	50.4	50.4	50.4	50.6	50.4						
100	50.2	50.2	50.2	50.2	50.2						
110	50.0	50.0	50.0	50.0	50.0						
120	49.8	49.6	49.6	49.6	49.8						
130	49.4	49.2	49.2	49.2	49.6						
140	49.0	48.8	48.8	49.0	49.2						
150	48.6	48.2		48.8	49.0						
160	47.8			48.0	48.0						
170	47.2			47.0	47.2						
180	46.4			46.2	46.8						
190	45.0			45.4							
200	44.6			45.0							
210	44.4			44.8							
220	44.4			44.2							
					4						
MAX. DEPTH	220	158	140	225	185	65					

Detroit Reservoir (cont.) - 7

Sample No. 32 - North Santiam River depth = 5 ft. volume = 3,000 ml
date = 6/2/64 1 strip counted
Organism: Diatoms total organisms = 234

Asterionella	23%
Melosira	9%
Cyclotella	Less than 1%
Nitzschia	"
Gomphonema	"
Cyanophyta	
Anabaena	62%
Chlorophyta	
Phytoconis	5%

Sample No. 33 - North Santiam River depth = 20 ft. volume = 3,000 ml
Date = 6/2/64 1 strip counted
Organism: Diatoms total organisms = 386

Asterionella	18%
Melosira	11%
Synedra	Less than 1%
Cyclotella	"
Acnanthes	"
Gomphonema	"
Nitzschia	"
Cyanophyta	
Anabaena	69%

DEXTER RESERVOIR

Sample No. 43 - Range G. depth = 10 ft. volume = 3,000 ml date = 7/2/64
Organism: Diatoms

Cymbella	Navicula
Ceratoneis	Fragilaria
Melosira	Cyclotella
Synedra	Asterionella
Nitzschia	Cocconeis
Amphora	Diatoma
Coscinodiscus	

Much detritus
No Chlorophyta or Cyanophyta

Sample No. 44 - Range E. depth = 5 ft. volume = 3,000 ml date = 7/2/64
Organism: Diatoms

Asterionella	Achanthes
Cyclotella	Amphora
Cymbella	Diatoma
Fragilaria	Gomphonema
Melosira	Navicula
Nitzschia	Synedra
Flagellates	Dominent organism: diatoms
Mallomonas	Medium amount of detritus
Cyanophyta	
Anabaena	

Dexter Reservoir (cont.) - 8

Sample No. 45 - Range E. depth = 25 ft. volume = 3,000 ml date = 7/2/64

Organism: Diatoms

Synedra	Fragilaria
Asterionella	Melosira
Cyclotella	Nitzschia
Gomphonema	Ceratoneis
Acnanthes	Navicula
Diatoma	Amphora
Tabellaria	Cocconeis
Coscinodiscus	

Chlorophyta
Nostoc

Cyanophyta
Anabaena

Dominant organisms: diatoms
Medium amount of detritus

LOOKOUT POINT RESERVOIR

Sample No. 34 - Log Boom. depth = 5 ft. volume = 100 out of 3,000 ml.
date = 7/1-2/64

Organism: Diatoms

Diatoma	Nitzschia
Cyclotella	Asterionella
Melosira	Cocconeis
Gomphonema	Amphora
Fragilaria	Epithemia
Tabellaria	Acnanthes

Chlorophyta
Chlorella

Cyanophyta

Anabaena	Nostoc

Dominant organism: Chlorella
Small amount of detritus
The ratio of diatoms to greens and blue-greens is approximately 50/50.

Sample No. 35 - Log Boom. depth = 50 ft. volume = 100 out of 3,000 ml.
date = 7/1-2/64

Organism: Diatoms

Fragilaria	Synedra
Cyclotella	Gomphonema
Asterionella	Nitzschia
Melosira	Navicula
Amphora	Ceratoneis

Chlorophyta
Chlorella

Cyanophyta

Anabaena	Oscillatoria

Dominant organism: diatoms
Much detritus

Lookout Point Reservoir (cont.) - 9

Sample No. 36 - Log Boom. Depth = 100 ft. volume = 100 out of 3,000 ml.
Date = 7/1-2/64
Organism: Diatoms
Melosira — Fragilaria
Synedra — Cyclotella
Eunotia — Navicula
Nitzschia — Asterionella
Chlorophyta
Chlorella — Phytoconis
Closterium
Cyanophyta
Anabaena
Dominant organism: diatoms
Much detritus

Sample No. 37 - Range V. Depth = 5 ft. volume = 200 ml date = 7/1-2/64
Organism: Diatoms
Navicula — Synedra
Cyclotella — Melosira
Amphora — Nitzschia
Asterionella — Gomphonema
Chlorophyta
Tetraspora
Dominant organism: diatoms
Much detritus

Sample No. 38 - Range V. Depth = 25 ft. volume = 100 ml date = 7/1-2/64
Organism: Diatoms
Rhoicosphenia — Cyclotella
Synedra — Nitzschia
Navicula — Cocconeis
Gomphonema — Epithemia
Asterionella — Melosira
Ceratoneis — Fragilaria
Chrysophyta
Dinobryon
Cyanophyta
Anabaena — Lyngbya
unidentified
Dominant organism: Anabaena

Sample No. 39 - Range V. Depth = 50 ft. volume = 100 ml date = 7/1-2/64
Organism: Diatoms
Ceratoneis — Cyclotella
Synedra — Gomphonema
Nitzschia — Cocconeis
Navicula — Rhoicosphenia
Asterionella — Melosira
Acnanthes — Diatoma
Amphora
Cyanophyta
Anabaena — Anacystis
Dominant organism: Anabaena

Lookout Point Reservoir (cont.) - 10

Sample No. 40 - P.R. Bridge at Headwaters. Dppth = 5 ft. volume = 100 ml
Date = 7/1-2/64
Organism: Diatoms
Gomphonema
Synedra
Navicula
Melosira
Ceratoneis
Amphora
Cyclotella
Acnanthes
Nitzschia
Asterionella
Meridion
Rhoicosphenia
Chlorophyta
Closterium
Cyanophyta
Anabaena
Dominant organism: Anabaena

Sample No. 41 - P.R. Bridge at Headwaters. Depth = 5 ft. volume = 30 ml
Date = 7/1-2/64
Organism: Diatoms
Diatoma
Asterionella
Synedra
Gomphonema
Ceratoneis
Acnanthes
Cyclotella
Nitzschia
Cocconeis
Rhoicosphenia
Cyanophyta
Anabaena
Dominant organism: Anabaena

Sample No. 42 - P.R. Bridge at Headwaters. Depth = 25 ft. volume = 100 ml
Date = 7/1-2/64
Organism: Diatoms
Navicula
Acnanthes
Ceratoneis
Cyclotella
Nitzschia
Asterionella
Melosira
Gomphonema
Cocconeis
Synedra
Amphora
Diatoma
Cymbella
Rhoisosphenia
Cyanophyta
Anabaena
Dominant organism: diatoms
Medium amount of detritus
Very little Anabaena

LOOKOUT POINT RESERVOIR WATER QUALITY DATA
July 29, 1964

Columbia River Basin Comprehensive Project
for Water Supply and Pollution Control

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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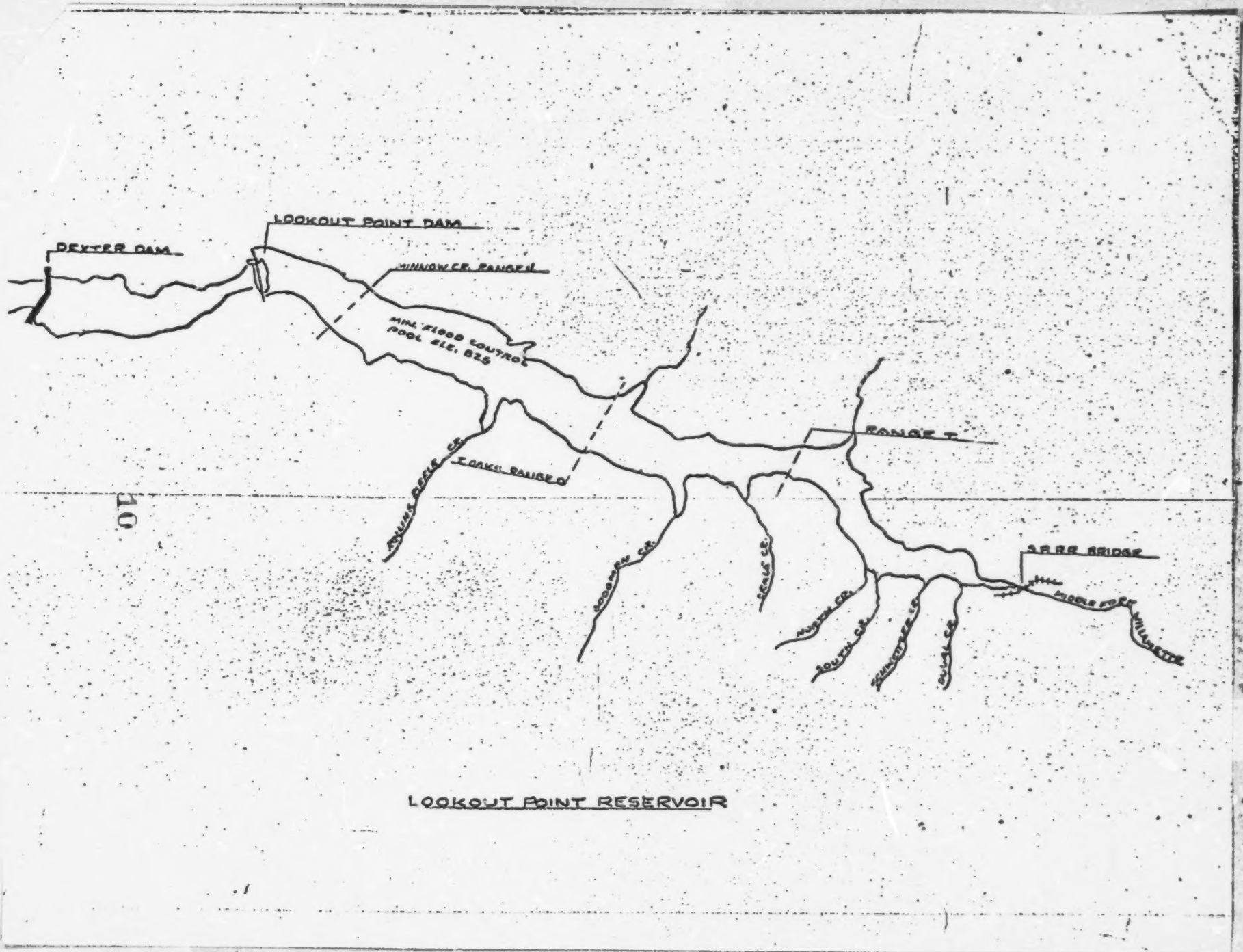

LOOKOUT POINT RESERVOIR

LOOKOUT POINT RESERVOIR
7/29/64

STATION: Log Boom
Time: 0800 Air Temp. 66 °F.

Depth ft.	°F Temp.	DO mg/1	pH	% Sat.	mg/1 T.Alkalinity	mg/1 T. Phosphate
5	70.8	8.7	7.9	99	25	0.10
25	68.2	6.7	7.9	75	23	0.16
50	57.0	9.3	8.5	92	27	0.20
100	51.6	9.9	7.9	92	21	0.14
150	49.5	10.1	9.2	91	21	0.18
200	45.5	9.0	7.9	77	20	0.18

STATION: Minnow Creek
Time: 0910 Air Temp. 75 °F.

Depth ft.	°F Temp.	DO mg/1	pH	% Sat.	mg/1 T.Alkalinity	mg/1 T.Phosphate
5	71	8.3	8.0	98	20	0.50
25	67	8.3	8.0	91	20	0.12
50	57	9.3	7.2	92	20	0.14
100	52	9.9	7.0	92	22	0.14
200	45	9.4	6.9	80	22	0.14

STATION: Ivan Oaks Park
Time: 0955 Air Temp. 78 °F.

Depth ft.	°F Temp.	DO mg/1	pH	% Sat.	mg/1 T.Alkalinity	mg/1 T.Phosphate
5	71	8.7	7.6	102	22	0.10
50	57	8.7	7.0	86	22	0.14
100	52	9.4	6.9	87	20	0.20
135	50	8.7	6.8	79	20	0.16

STATION: Range T - Rhodes Creek
Time: 1025 Air Temp. 73 °F.

Depth ft.	°F. Temp.	DO mg/1	pH	% Sat.	mg/1 T.Alkalinity	mg/1 T.Phosphate
5	71	8.3	7.0	98	18	0.14
25	66	8.4	6.6	91	20	0.08
50	58	8.5	7.0	85	49	0.12
85	53	8.2	7.7	77	22	0.16

LOOKOUT POINT RESERVOIR
7/29/64
(Continued)

STATION: SPRR Bridge (Intake)
Time: 1130

Air Temp. 75 °F.

Depth ft.	° F Temp.	DO mg/l	% Sat.	mg/l T. Alkalinity	mg/l T. Phosphate
10	63	7.3	77	26	0.10

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Hydrologic Data

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Project LOOKOUT POINT RESERVOIR Comp.

Subject BT SOUNDINGS 7-29-64 Chkd.

Date:

LOCATION	LOG BOOM	RANGE J.	RANGE O	RANGE T	SP.R.R BRIDGE						
TIME	0800	0910	0955	1025	1130						
AIR TEMP.	66	75	78	73	75						
DEPTH											
0	71.2	71.2	71.8	72.0	73.0						
5	71.2	71.1	71.6	71.6	70.0						
10	71.2	71.0	71.0	71.4	63.0						
15	71.2	70.8	69.0	71.0	57.0						
20	69.0	69.4	66.8	67.0	56.2						
25	65.0	67.0	65.0	66.0	55.6						
30	60.8	62.0	61.6	61.0							
35	59.4	60.2	60.2	59.4							
40	58.0	58.6	58.4	58.6							
45	57.2	57.8	57.8	58.0							
50	56.6	57.0	57.2	57.2							
60	55.0	55.2	55.6	55.2							
70	53.8	54.0	49.6	53.8							
80	53.0	53.2	46.?	53.0							
90	52.4	52.4	52.6								
100	52.0	52.0	52.0								
110	51.2	51.6	51.6								
120	51.0	51.0	51.0								
130	50.6	50.6	50.2								
140	50.?	50.2									
150	49.8	49.8									
160	49.4	49.2									
170	49.0	48.2									
180	48.0	47.4									
190	46.2	46.2									
200	45.4	45.8									
210		45.0									
220		45.0									
MAX											

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA GEN. REG. NO. 27

UNITED STATES GOVERNMENT

Memorandum

TO : James E. Britton, Sanitary Engineer DATE: August 26, 1964

FROM : Margaret Wilson, Laboratory Branch, CRBP

SUBJECT: Plankton Count for Lookout Point and Dexter Reservoirs

Sample No. 97 - Minnow Creek Station - Range J
Date = 7/29/64 Depth = 5 feet Volume = 250 ml.
5 strips counted total count = 3
Organisms: Diatoms
Diatoma 1
Chlorophyta
Pleurotaenium 2

Sample No. 98 - Minnow Creek Station - Range J
Date = 7/29/64 Depth = 25 feet Volume = 250 ml.
5 strips counted total count = 4
Organisms: Diatoms
Ceratoneis 1
Diatoma 1
Navicula 1
Chlorophyta
Pleurotaenium 1

Sample No. 99 - Minnow Creek Station - Range J
Date = 7/29/64 Depth = 50 feet Volume = 250 ml.
5 strips counted total count = 4
Organisms: Diatoms
Cyclotella 1
Diatoma 2
Chlorophyta
Pleurotaenium 1

Sample No. 100 - Minnow Creek Station - Range J
Date = 7/29/64 Depth = 100 feet Volume = 250 ml.
5 strips counted total count = 28
Organisms: Diatoms
Cyclotella 10
Asterionella 4
Ceratoneis 2
Melosira 2
Nitzschia 2
Acnanthes 1
Cocconeis 1
Diatoma 1
Gyrosigma 1
Chlorophyta
Pleurotaenium 4

Lookout Point and Dexter Plankton Count - 2

Sample No. 101 - Minnow Creek Station - Range J
Date = 7/29/64 Depth = 200 feet Volume = 250 ml.
3 strips counted total count = 115
Organisms: Diatoms

Cyclotella	47
Asterionella	35
Melosira	10
Navicula	8
Nitzschia	6
Ceratoneis	3
Gomphonema	3
Acnanthes	1
Chlorophyta	
Pleurotaenium	1

Sample No. 102 - Ivan Oaks Park - Range O
Date = 7/29/64 Depth = 5 feet Volume = 250 ml.
5 strips counted total count = 6
Organisms: Diatoms

Cyclotella	2
Nitzschia	2
Chlorophyta	
Pleurotaenium	1
Unidentified	1

Sample No. 103 - Ivan Oaks Park - Range O
Date = 7/29/64 Depth = 50 feet Volume = 250 ml.
5 strips counted total count = 19
Organisms: Diatoms

Fragilaria	10
Cyclotella	3
Navicula	2
Cymbella	1
Chlorophyta	
Pleurotaenium	2
Chlorella	1

Sample No. 104 - Ivan Oaks Park - Range O
Date = 7/29/64 Depth = 100 feet Volume = 250 ml.
5 strips counted total count = 42
Organisms: Diatoms

Cyclotella	23
Fragilaria	5
Nitzschia	5
Navicula	3
Asterionella	2
Ceratoneis	1
Diatoma	1
Synedra	1
Chlorophyta	
Pleurotaenium	1

Lookout Point and Dexter Plankton Count - 3

Sample No. 105 - Ivan Oaks Park - Range 0
Date = 7/29/64 Depth = 135 feet Volume = 250 ml.
5 strips counted total count = 120
Organisms: Diatoms

Cyclotella	60
Melosira	18
Asterionella	12
Navicula	11
Nitzschia	5
Ceratoneis	3
Fragilaria	3
Diatoma	2
Gomphonema	2
Rhoicosphehia	2
Synedra	1
Chlorophyta	
Pleurotaenium	1

Sample No. 106 - Corps of Eng. - Range T - Near Rhodes Creek
Date = 7/29/64 Depth = 5 feet Volume = 250 ml.
5 strips counted total count = 35
Organisms: Diatoms

Fragilaria	18
Melosira	9
Synedra	3
Amphora	1
Ceratoneis	1
Gomphonema	1
Navicula	1
Chlorophtya	
Pleurotaenium	1

Sample No. 107 - Corps of Eng. - Range T - Near Rhodes Creek
Date = 7/29/64 Depth = 25 feet Volume = 250 ml.
5 strips counted total count = 47
Organisms: Diatoms

Fragilaria	34
Melosira	10
Synedra	2
Chlorophyta	
Pleurotaenium	1

Lookout Point and Dexter Plankton Count - 4

Sample No. 108 - Corps of Eng. - Range T - Near Rhodes Creek
Date = 7/29/64 Depth = 50 feet Volume = 250 ml.
5 strips counted total count = 129
Organisms: Diatoms

Melosira	25
Synedra	22
Fragilaria	17
Navicula	16
Amphora	12
Ceratoneis	10
Cyclotella	8
Diatoma	5
Gomphonema	5
Nitzschia	4
Asterionella	3
Acnanthes	1
Rhoicosphenia	1

Sample No. 109 - Corps of Eng. - Range T - Near Rhodes Creek
Date = 7/29/64 Depth = 85 feet Volume = 250 ml.
3 strips counted total count = 96
Organisms: Diatoms

Cyclotella	8
Synedra	8
Navicula	5
Asterionella	4
Gomphonema	3
Amphora	2
Ceratoneis	2
Melosira	2
Nitzschia	1
Cyanophyta	
Anabaena	61

Sample No. 110 - Southern Pacific R/R Bridge (intake)
Date = 7/29/64 Depth = 10 feet Volume = 250 ml.
1 strip counted total count = 88
Organisms: Diatoms

Fragilaria	29
Synedra	13
Amphora	10
Navicula	9
Cyclotella	8
Gomphonema	5
Asterionella	3
Ceratoneis	3
Diatoma	2
Melosira	2
Nitzschia	2
Chlorophyta	
Pleurotaenium	2

Lookout Point and Dexter Plankton Count - 7

Sample No. 118 - Log Boom - Corps of Eng. double log gage
Date = 7/29/64 Depth = 100 feet Volume = 250 ml.
5 strips counted total count = 31
Organisms: Diatoms

Cyclotella	16
Asterionella	10
Nitzschia	3
Amphora	1
Synedra	1

Sample No. 119 - Log Boom - Corps of Eng. double log gage
Date = 7/29/64 Depth = 150 feet Volume = 250 ml.
5 strips counted total count = 105
Organisms: Diatoms

Cyclotella	60
Asterionella	26
Nitzschia	8
Navicula	5
Melosira	2
Cocconeis	1
Diatoma	1
Meridion	1
Synedra	1

Sample No. 120 - Log Boom - Corps of Eng. double log gage
Date = 7/29/64 Depth = 200 feet Volume = 250 ml.
3 strips counted total count = 94
Organisms: Diatoms

Cyclotella	34
Asterionella	20
Synedra	5
Navicula	5
Melosira	4
Nitzschia	4
Acnanthes	2
Amphora	1
Cocconeis	1
Diatoma	1
Fragilaria	1
Cyanophyta	
Anabaena	16

Lookout Point and Dexter Plankton Count - 8

Sample No. 121 - Above Hills Creek Pool - Middle Fork Willamette at Butcherknife Creek
Date = 7/28/64 Depth = 2 feet Volume = 250 ml.
1 strip counted Total count = 102
Organisms: Diatoms

Synedra	28
Cocconeis	26
Navicula	11
Ceratoneis	10
Diatoma	7
Gomphonema	7
Amphora	6
Melosira	4
Meridion	2
Acnanthes	1

NOTE: Stations located on Lookout Point Reservoir unless otherwise indicated.

Margaret Wilson

Margaret Wilson

DEXTER RESERVOIR WATER QUALITY DATA
July 29, 1964

Columbia River Basin Comprehensive Project
for Water Supply and Pollution Control

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Water Supply and Pollution Control
Pacific Northwest, Region IX
Portland, Oregon

DEXTER RESERVOIR
7-29-54

STATION: Log Boom
Time: 1230

Air Temp. - 76 °F.

Depth ft.	°F Temp.	DO mg/l	mg/l T. Alkalinity	mg/l T. Phos.	DO % Sat.
5	57	12.6	18	0.10	124
40	51.6	9.9	16	0.14	91

STATION: Tailrace
Time: 1330

Air Temp. - 80 °F.

Depth. ft.	°F Temp.	DO mg/l	mg/l T.Alkalinity	mg/l T. Phos.	DO % Sat.
2	60.8	10.1	20	0.14	104

STATION: Lookout Point Tailrace
Time: 1400

Air Temp. - 80 °F.

Depth ft.	°F Temp.	DO mg/l	mg/l T.Alkalinity	mg/l T. Phos.	DO % Sat.
2	58.1	9.7	16	0.14	96

Lookout Point and Dexter Plankton Count - 5

Sample No. 111 - Log Boom (Dexter Reservoir)
Date = 7/29/64 Depth = 5 feet Volume = 250 ml.
1 strip counted , total count = 57 (excluding Anabaena)
Organisms: Diatoms

Asterionella	46
Cyclotella	1
Melosira	10
Cyanophyta	
Anabaena	About one hundred per field

Sample No. 112 - Log Boom (Dexter Reservoir)
Date = 7/29/64 Depth = 40 feet Volume = 250 ml.
1 strip counted total count = 59 (excluding Anabaena)
Organisms: Diatoms

Fragilaria	26
Cyclotella	7
Nitzschia	7
Asterionella	5
Melosira	5
Synedra	3
Cocconeis	2
Gyrosigma	1
Rhoicosphenia	1
Chlorophyta	
Coelastrum	1
Pleurotaenium	1
Cyanophyta	
Anabaena	About fifty per field

Sample No. 113 - Tailrace (Dexter Reservoir)
Date = 7/29/64 Depth = 2 feet Volume = 250 ml.
11 strip counted total count = 100
Organisms: Diatoms

Fragilaria	24
Asterionella	10
Gomphonema	5
Cyclotella	4
Melosira	4
Nitzschia	2
Synedra	2
Cocconeis	1
Navicula	1
Cyanophyta	
Anabaena	47

Lookout Point and Dexter Plankton Count - 6

Sample No. 114 - Lookout Point, Tailrace (Dexter Reservoir)
Date = 7/29/64 Depth = 2 feet Volume = 250 ml.
5 strips counted total count = 50
Organisms: Diatoms

Cyclotella	28
Asterionella	8
Synedra	4
Navicula	3
Nitzschia	3
Gomphonema	2
Melosira	2

Sample No. 115 - Log Boom - Corps of Eng. double log gage
Date = 7/29/64 Depth = 5 feet Volume = 250 ml.
5 strips counted total count = 22
Organisms: Diatoms

Asterionella	15
Synedra	3
Cyclotella	2
Navicula	2

Sample No. 116 - Log Boom - Corps of Eng. double log gage
Date = 7/29/64 Depth = 25 feet Volume = 250 ml.
5 strips counted total count = 1
Organisms: Diatoms

Synedra	1

Sample No. 117 - Log Boom - Corps of Eng. double log gage
Date = 7/29/64 Depth = 50 feet Volume = 250 ml.
5 strips counted total count = 33
Organisms: Diatoms

Melosira	15
Asterionella	2
Cyclotella	2
Synedra	2
Cocconeis	1
Gomphonema	1
Navicula	1
Chlorophyta	
Pleurotaenium	1
Cyanophyta	
Anabaena	8

NPD Form
July 1959 14

Hydrologic Data

Page

Project DEXTER RESERVOIR 7-29-64 Comp.

Subject BT SOUNDINGS Chkd. DCS

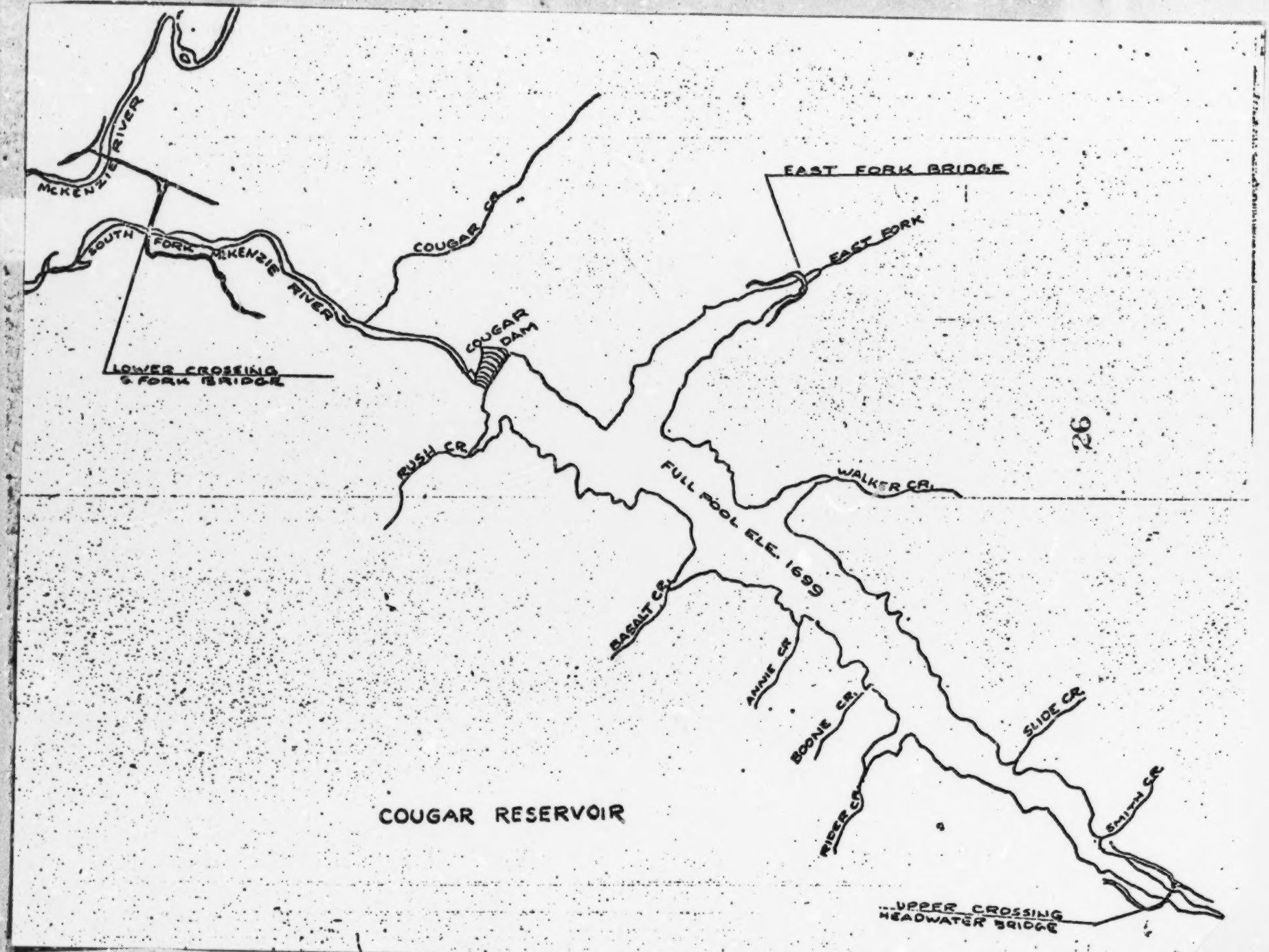
Date:

LOCATION	LOG BOOM										
TIME	1230										
AIR TEMP.	76										
DEPTH											
0	68.0										
5	57.0										
10	55.2										
15	54.0										
20	52.8										
25	52.4										
30	52.2										
35	52.0										
40	51.6										
45	51.2										
50											
MAX. DEPTH	45										

COUGAR RESERVOIR WATER QUALITY DATA
July 2, 1964

Columbia River Basin Comprehensive Project
for Water Supply and Pollution Control

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Water Supply and Pollution Control
Pacific Northwest, Region IX
Portland, Oregon


McKENZIE RIVER
SOUTH FORK McKENZIE RIVER
COUGAR CR.
COUGAR DAM
LOWER CROSSING & FORK BRIDGE
EAST FORK BRIDGE
EAST FORK
RUSH CR.
FULL POOL ELE. 1699
WALKER CR.
BASALT CR.
ANNIE CR.
BOONE CR.
SLIDE CR.
SMITH CR.
RIDER CR.
UPPER CROSSING HEADWATER BRIDGE
COUGAR RESERVOIR

COUGAR RESERVOIR
7/2/64

STATION: Bridge at Res. Headquarters
Time: 1310 Air Temp. - 61 °F.

Depth ft.	°F Temp	pH	mg/1 DO	DO % Saturation
0	65			
2	65			
5	64	7.0	9.6	107
10	59			
15	51			
20	51	7.1	10.6	102

STATION: East Fork Bridge
Time: 1400 Air Temp. - 61 °F.

Depth ft.	°F Temp	pH	DO mg/1	DO % Saturation
0	65			
2	65			
5	65	7.3	9.7	109
8	54			
10	52			
15	50.5			
20	50	7.1	10.2	96
25	48			
30	47			

STATION: So. Fork McKenzie Bridge
Time: 1440 Air Temp. 62 °F.

Depth ft.	°F Temp.	pH	DO mg/1	DO % Saturation
Surf.	49	7.5	11.6	108

Sample No. 46 - Bridge at Reservoir Headwaters. Depth = 5 ft.
volume = 200 ml Date = 7/2/64
Organism: Diatoms

Synedra	Gomphonema
Melosira	Cyclotella
Navicula	Ceratoneis
Acnanthes	Diatoma
Nitzschia	Asterionella
Cocconeis	Medium amount of Detritus

Sample No. 47 - Bridge at Reservoir Headwaters. Depth = 15 ft.
volume = 200 ml Date - 7/2/64
Organism: Diatoms

Diatoma	Ceratoneis
Cocconeis	Navicula
Gomphonema	Amphora
Melosira	Synedra
Meridion	Acnanthes
Nitzschia	Rhoicosphenia
Cymbella	

Flagellates
Dinobryon
Cyanophyta
Anabaena
Dominant organism: Diatoms
Very little Detritus

Sample No. 48 - E.F. Bridge Depth = 5 ft. volume = 200 ml
Date = 7/2/64
Organism: Diatoms

Synedra	Nitzschia
Navicula	Asterionella
Ceratoneis	Acnanthes
Amphora	Cyclotella
Cocconeis	Diatoma
Tabellaria	

Medium amount of Detritus

Sample No. 49 - E.F. Bridge Depth = 20 ft. volume = 200 ml
Date = 7/2/64
Organism: Diatoms

Acnanthes	Navicula
Asterionella	Cyclotella
Synedra	Ceratoneis
Diatoma	Amphora
Cocconeis	Fragilaria
Nitzschia	Meridion
Gomphonema	

Chlorophyta
Chlorella
Dominant organism: Diatoms

Cougar Reservoir (cont.) - 5

Sample No. 50 - S.F.McKenzie Bridge. Depth = __ Volume = 200 ml
Date = 7/2/64
Organism: Diatoms

Navicula	Gomphonema
Nitzschia	Cyclotella
Amphora	Diatoma
Synedra	Melosira
Ceratoneis	Rhoicosphenia
Acnanthes	Cocconeis
Asterionella	Fragilaria

Chlorophyta
Nodularia
Cyanophyta
Anacystis
Dominant organism: Diatoms

DETROIT RESERVOIR
(The following contain little detritus)

Sample No. 24 - Log Boom. Depth = 5 ft. volume = 3,000 ml
Date = 6/2/64 Estimated from ¼ strip counts of the slide.
Organism: Diatoms total organisms = 373

Asterionella	38%
Melosira	15%
Fragilaria	4%
Cyclotella	Less than 1%
Navicula	"

Cyanophyta

Anabaena	40%

Sample No. 25 - Log Boom. Depth = 20 ft. volume = 3,000 ml
Date = 6/2/64 Estimated from ¼ strip counts of the slide.
Organism: Diatoms total organisms = 403

Asterionella	47%
Melosira	13%
Fragilaria	4%
Cyclotella	Less than 1%
Navicula	"
Tabellaria	"

Cyanophyta

Anabaena	34%

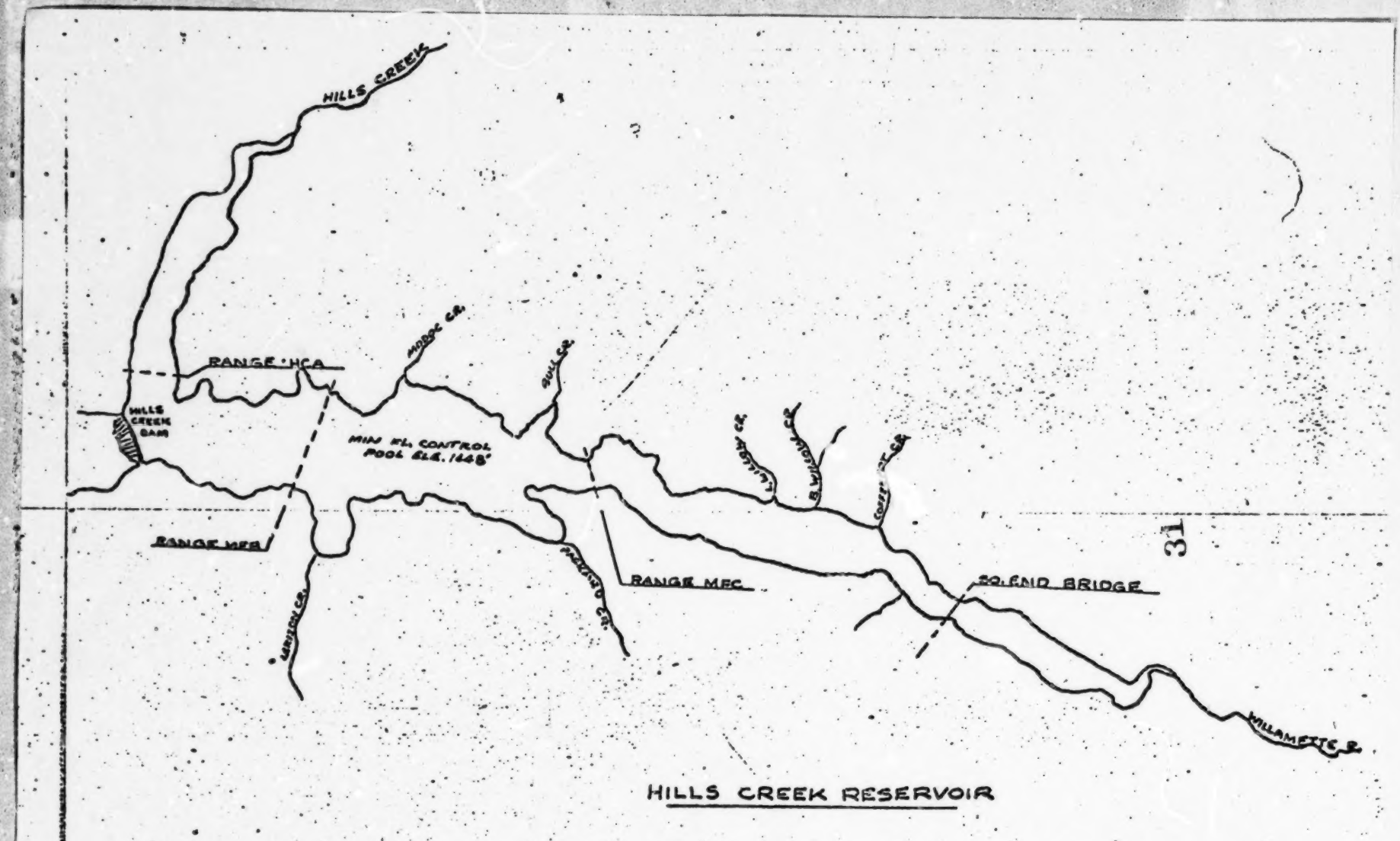
Sample No. 26 - Log Boom. Depth = 50 ft. volume = 3,000 ml
Date = 6/2/64 Estimated from ¼ strip counts of the slide.
Organism: Diatoms total organisms = 171

Asterionella	67%
Melosira	23%
Synedra	5%
Fragilaria	2%
Cyclotella	2%
Navicula	Less than 1%
Gomphonema	"

HILLS CREEK RESERVOIR WATER QUALITY DATA
July 30, 1964

Columbia River Basin Comprehensive Project
for Water Supply and Pollution Control

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Water Supply and Pollution Control
Pacific Northwest, Region IX
Portland, Oregon



HILLS CREEK RESERVOIR

HILLS CREEK RESERVOIR (ABOVE) WATER QUALITY DATA
July 28, 1964

Columbia River Basin Comprehensive Project
for Water Supply and Pollution Control

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Water Supply and Pollution Control
Pacific Northwest, Region IX
Portland, Oregon

HILLS CREEK

(Willamette Above Hills Creek)
7-28-64

STATION: Bridge at Butcherknife Creek
TIME: 1715

Air Temperature - 78 °F.

Depth ft.	°F Temp.	pH	DO mg/1	mg/1 T. Alkalinity	mg/1 T. Phosphate
2	59	7.9	10.0	26	0.25

STATION: Bridge at Westfir Junction
TIME: 1400

Air Temperature - 62 °F.

Depth ft.	°F Temp.	pH	DO mg/1	mg/1 T.Alkalinity	mg/1 T. Phosphate
2	53	7.2	11.0	18	0.20

STATION: Bridge at Westfir Housing - Below Mill.
TIME: 1415

Air Temperature - 61 °F.

Depth ft.	°F Temp.	pH	DO mg/1	mg/1 T.Alkalinity	mg/1 T.Phosphate
2	60	7.2	9.6	12	0.20

HILLS CREEK
7-30-64

STATION: Range HCA
Time: 0810
Air Temperature - 64 °F.

Depth ft.	°F Temp.	pH	mg/l DO	mg/l T.Alkalinity	mg/l T. Phosphate
5	70	7.9	9.3	18	0.42
50	56	8.8	9.3	36	0.16
125	44	8.4	9.7	30	0.22
225	42	9.4	9.0	48	0.24

STATION: Log Boom
Time: 0820
Air Temperature - 62 °F.

Depth ft.	°F Temp.	pH	DO mg/l	mg/l T.Alkalinity	mg/l T. Phosphate
5	69.4	8.4	8.6	12	0.14
25	66.0	8.4	8.4	26	0.14
125	44.2	7.9	9.6	22	0.25
245	41.2	9.2	10.0	40	0.22

STATION: Range MFB
Time: 0910
Air Temperature - 61 °F.

Depth ft.	°F Temp.	pH	DO mg/l	mg/l T.Alkalinity	mg/l T. Phosphate
5	69	7.2	8.5	20	0.12
25	61	7.1	8.4	20	0.14
100	47	7.1	10.0	20	0.12
150	43	6.9	9.5	20	0.20
250	42	6.9	9.2	26	0.22

STATION: Range MFC
Time: 0930
Air Temperature - 62 °F.

Depth ft.	°F Temp.	pH	DO mg/l	mg/l T.Alkalinity	mg/l T. Phosphate
5	71	7.2	8.6	24	0.12
50	56	7.0	9.1	28	0.16
100	48	8.2	9.0	24	0.20
150	43	6.8	9.1	24	0.21

STATION: South End Bridge
Time: 1005
Air Temperature - 66 °F.

Depth ft.	F Temp.	pH	DO mg/l	Cond.	mg/l T.Alkalinity	mg/l T. Phosphate
5	71	7.1	8.6	44	24	0.12
25	65	7.2	8.4	44	24	0.14

STATION: Kitson Springs Bridge
Time: 1250
Air Temperature - 69 °F.

Depth ft.	°F Temp.	pH	DO mg/l	mg/l T.Alkalinity	mg/l T. Phosphate
2	57	7.0	9.8	16	0.16

STATION: Tailrace
Time: 1315
Air Temperature - 64 °F.

Depth ft.	°F Temp.	pH	DO mg/l	mg/l T.Alkalinity	mg/l T. Phosphate
2	50	6.8	9.6	11	0.18

Hills Creek Reservoir & Willamette River

Sample No. 122 - Log Boom - Corps of Eng. Float Box. Depth = 5 ft.
Date = 7/30/64. ½ strip counted, 177 organisms.

Organisms:	Diatoms	
	Cyclotella	117
	Asterionella	27
	Acnanthes	2
	Navicula	1
	Synedra	1
	Chlorophyta	
	Pleurotaenium	2
	Oedogonium	1
	Cyanophyta	
	Anabaena	12

Sample No. 123 - Log Boom - Corps of Eng. Float Box. Depth = 25 ft.
Date = 7/30/64. 1 strip counted, 38 organisms.

Organisms:	Diatoms	
	Cyclotella	9
	Asterionella	7
	Navicula	2
	Synedra	1
	Cyanophyta	
	Anabaena	19

Sample No.124 - Log Boom - Corps of Eng. Float Box. Depth = 125 ft.
Date = 7/30/64. 1/3 strip counted, 152 organisms.

Organisms:	Diatoms	
	Cyclotella	115
	Asterionella	13
	Navicula	2
	Chlorophyta	
	Oedogonium	22

Sample No. 125 - Log Boom - Corps of Eng. Float Box. Depth = 245 ft.
Date = 7/30/64. ½ strip counted, 116 organisms.

Organisms:	Diatoms	
	Cyclotella	90
	Asterionella	16
	Navicula	2
	Epithemia	1
	Chlorophyta	
	unidentified	1
	Cyanophyta	
	Anabaena	6

Sample No. 126 - Range MFB. Depth = 5 ft. Date = 7/30/64. 1 strip counted, 152 organisms.

Organisms:		
Diatoms		
	Cyclotella	3
	Asterionella	1
Chlorophyta		
	Oedogonium	2
Cyanophyta		
	Anabaena	146

Sample No. 127 - Range MFB. Depth = 25 ft. Date = 7/30/64. 3 strips counted, 21 organisms.

Organisms:		
Diatoms		
	Cyclotella	15
	Fragilaria	4
	Asterionella	1
	Cocconeis	1

Sample No. 128 - Range MFB. Depth = 100 ft. Date = 7/30/64. 1 strip counted, 219 organisms.

Organisms:		
Diatoms		
	Cyclotella	2
	Acnanthes	1
Cyanophyta		
	Anabaena	216

Sample No. 129 - Range MFB. Depth = 150 ft. Date = 7/30/64. 2/3 strip counted, 177 organisms.

Organisms:		
Diatoms		
	Cyclotella	145
	Asterionella	24
	Synedra	3
Chlorophyta		
	Oedogonium	5

Sample No. 130 - Range MFB. Depth = 250 ft. Date 7/30/64. 1 strip counted, 192 organisms.

Organisms:		
Diatoms		
	Cyclotella	132
	Asterionella	50
	Navicula	4
	Nitzschia	1
Chlorophyta		
	Oedogonium	5

Sample No. 131 - Range MFC. Depth = 5 ft. Date = 7/30/64. 1/3 strip counted, 193 organisms:

Organisms:		
Diatoms		
	Fragilaria	16
	Cyclotella	3
	Synedra	1
Chlorophyta		
	Oedogonium	11
Cyanophyta		
	Anabaena	162

Sample No. 132 - Range MFC. Depth = 50 ft. Date = 7/30/64. 1 strip counted, 34 organisms.

Organisms:		
Diatoms		
	Cyclotella	5
	Navicula	5
	Asterionella	4
	Gomphonema	4
	Nitzschia	2
	Synedra	2
	Cocconeis	1
Cyanophyta		
	Anabaena	11

Sample No. 133 - Range MFC. Depth = 100 ft. Date = 7/30/64. 1 strip counted, 32 organism.

Organisms:		
Diatoms		
	Cyclotella	17
	Asterionella	8
	Cocconeis	2
	Navicula	2
	Amphora	1
	Diatoma	1
	Nitzschia	1

Sample No. 134 - Range MFC. Depth = 150 ft. Date = 7/30/64. 1 strip counted, 98 organisms.

Organisms:		
Diatoms		
	Cyclotella	73
	Asterionella	23
	Nitzschia	1
	Synedra	1

Sample No. 135 - Bridge, South End. Depth = 5 ft. Date = 7/30/64. 1 strip counted, 7 organisms (excluding Cyanophyta).

Organisms:		
Diatoms		
	Melosira	4
	Synedra	2
	Cyclotella	1
Cyanophyta		
	Anabaena	1500 (estimated)
	Anacystis	3 colonies

Sample No. 136 - Bridge, South End. Depth = 25 ft. Date = 7/30/64
1 strip counted, 28 organisms (excluding Cyanophyta).

Organisms:		
Diatoms		
	Nitzschia	6
	Synedra	6
	Gomphonema	5
	Navicula.	5
	Cocconeis	3
	Acnanthes	1
	Cyclotella	1
	Diatoma	1
Cyanophyta		
	Anabaena	1200 (estimated)
	Anacystis	1 colony

Sample No. 137 - Hills Creek Tailrace. Depth = 2 ft. Date = 7/30/64
½ strip (15 mm) counted, 145 organisms.

Organisms:		
Diatoms		
	Cyclotella	92
	Asterionella	7
	Gomphonema	2
	Acnanthes	1
	Diatoma	1
	Nitzschia	1
	Synedra	1
Chlorophyta		
	unidentified	32
	Oedogonium	8

Sample No. 138 - Kitson Springs Bridge. Depth = 2 ft. Date = 7/30/64
½ strip counted, 109 organisms.

Organisms:		
Diatoms		
	Synedra	36
	Navicula	34
	Gomphonema	22
	Acnanthes	4
	Diatoma	4
	Cocconeis	3
	Nitzschia	2
	Rhoicosphenia	2
	Amphora	1
	Ceratoneis	1

Sample No. 139 - Bridge at Westfir Below Mill (North Fork of Middle Fork of Willamette River) Depth = 2 ft. Date = 7/30/64 1/3 strip counted, 101 organisms.

Organisms:				
Diatoms				
	Synedra	37	Acnanthes	1
	Navicula	19	Cyclotella	1
	Cocconeis	15	Meridion	1
	Gomphonema	11	Nitzschia	1
	Amphora	7		
	Diatoma	6		
	Ceratoneis	2		

Sample No. 140 - Bridge at Westfir Junction - Old Highway Bridge (Willamette River). Depth = 2 ft. Date = 7/30/64. 1/6 strip counted, 128 organisms.

Organisms:	Diatoms	
	Synedra	43
	Navicula	17
	Amphora	15
	Gomphonema	15
	Ceratoneis	10
	Cyclotella	6
	Melosira	6
	Cocconeis	5
	Nitzschia	5
	Diatoma	3
	Rhoicosphenia	2
	Asterionella	1

Sample No.141 - Corps of Engineers - Range HCA - (Red 8 on shore). Depth = 5 ft. Date = 7/30/64. 1 strip counted, 81 organisms.

Organisms:	Diatoms	
	Amphora	6
	Cyclotella	4
	Navicula	4
	Synedra	3
	Cocconeis	2
	Gomphonema	2
	Diatoma	1
	Cyanophyta	
	Anabaena	59

Sample No. 142 - Corps of Engineers - Range HCA - (Red 8 on shore). Depth = 50 ft. Date = 7/30/64. 1 strip counted, 83 organisms.

Organisms:	Diatoms	
	Cyclotella	4
	Asterionella	3
	Diatoma	2
	Navicula	2
	Amphora	1
	Cocconeis	1
	Chlorophyta	
	Oedogonium	20
	Cyanophyta	
	Anabaena	50

Sample No. 143 - Corps of Engineers - Range HCA - (Red 8 on shore). Depth = 125 ft. Date - 7/30/64. ½ strip counted, 174 organisms.

Organisms:	Diatoms	
	Cyclotella	131
	Asterionella	11
	Gomphonema	1
	Navicula	1
	Synedra	1
	Chlorophyta	
	Oedogonium	17
	Cyanophyta	
	Anabaena	12

Sample No. 144 - Corps of Engineers - Range HCA - (Red △ on shore).
Depth = 225 ft. Date = 7/30/64. 1 strip counted, 183 organisms.
Organisms: Diatoms

Cyclotella	129
Asterionella	43
Synedra	5
Navicula	3
Amphora	1
Cocconeis	1
Gomphonema	1

NOTE: Stations are located at Hills Creek Reservoir unless otherwise indicated.

Margaret E. Wilson

Margaret E. Wilson

SNAKE RIVER (HELLS CANYON) WATER QUALITY DATA
July 15-16, 1964

Columbia River Basin Comprehensive Project
for Water Supply and Pollution Control

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Water Supply and Pollution Control
Pacific Northwest, Region IX
Portland, Oregon

SNAKE RIVER (Hells Canyon)
7-15/16 - 1964

STATION: High Mountain Sheep Site, RM 189
TIME: 1215 — Air Temperature - 67 °F.

Depth ft.	°F Temp.	pH	DO mg/l	mg/l T. Alkalinity	mg/l T. Hardness
20	68.5	7.1	8.9	110	122

STATION: Below Deep Creek, RM 199
TIME: 1700 — Air Temperature - 70 °F.

Depth ft.	°F Temp.	pH	DO mg/l	mg/l T.Alkalinity	mg/l T.Hardness	mg/l T. Phosphate	BOD_5
5	67	7.1	9.2	110	128	0.22	1.34
25	67	7.1	9.2	108	124	0.22	
50	67	7.1	9.3	110	126	0.22	

STATION: Below Sand Creek, RM 228
TIME: 1045 — Air Temperature - 70 °F.

Depth ft.	°F Temp.	pH	DO mg/l	mg/l T.Alkalinity	mg/l T.Hardness	mg/l T. Phosphate
5	68	7.1	9.2	100	108	0.24

STATION: Dick River's Camp
TIME: 1345 — Air Temperature - 88 °F.

Depth ft.	Temp.	DO mg/l	BOD_5
Surf.	68	9.3	1.0

STATION: Below Nez Perce Dam Site, RM 186
TIME: 1530 — Air Temperature - 90 °F.

Depth ft.	°F Temp.	pH	DO mg/l	BOD_5	mg/l T.Alkalinity	mg/l T.Hardness	mg/l T.Phosphate
5	68	7.1	9.4	-	62	68	0.20
30	68	7.1	9.3	-	62	74	0.18
30	68	7.1	9.3	0.74	58	80	0.20

STATION: Buffalo Eddy, RM 160.5
TIME: 1715 — Air Temperature - 86 °F.

Depth ft.	Temp.	pH	mg/l	T. Alkalinity	T. Hardness	T. Phosphate
30	69	7.1	9.4	54	68	0.24

SNAKE RIVER

Sample No. 67 - Buffalo Eddy, River Mile 160.5. depth = 30 ft.
Date = 7/20/64 Estimates from 4 field counts of the slide. 169 organisms.
Organism: Diatoms

Fragilaria	47%
Cyclotella	12%
Melosira	11%
Synedra	10%
Diatoma	4%
Navicula	4%
Nitzschia	3%
Ceratoneis	2%
Gomphonema	2%
Amphora	2%
Cocconeis	less than 1%
Stephanodiscus	"
Rhoicosphenia	"

Sample No. 68 - Nez Perce site, River Mile 186±. depth = 5 ft.
Date = 7/20/64 Estimates from 4 field counts of the slide. 134 organisms.
Organism: Diatoms

Fragilaria	58%
Diatoma	12%
Cyclotella	7%
Melosira	7%
Gomphonema	4%
Navicula	4%
Epithemia	2%
Cocconeis	1%
Synedra	1%
Nitzschia	1%
Amphora	1%
Ceratoneis	1%

Sample No. 69 - Nez Perce site, River Mile 186±. depth = 30 ft.
Date = 7/20/64 Estimates from 4 field counts of the slide. 161 organisms
Organism: Diatoms

Fragilaria	54%
Diatoma	11%
Cyclotella	9%
Navicula	6%
Synedra	5%
Gomphonema	4%
Nitzschia	4%
Melosira	2%
Epithemia	1%
Ceratoneis	1%
Cymbella	less than 1%
Cocconeis	"
Surirella	"
Rhoicosphenia	"

Snake River (cont.) - 12

Sample No. 70 - Nez Perce site, River Mile 186±. depth = 60 ft.
Date = 7/20/64 Estimated percent from 4 field counts. 196 organisms.
Organism: Diatoms

Fragilaria	72%
Diatoma	6%
Cyclotella	5%
Gomphonema	5%
Navicula	3%
Synedra	2%
Nitzschia	2%
Cocconeis	1%
Stephanodiscus	1%
Amphora	1%
Melosira	1%
Ceratoneis	less than 1%

Sample No. 71 - High Mountain Sheep, River Mile 189±. depth = 20 ft.
Date = 7/20/64 Estimates from 3 field counts of the slide. 379 organisms.
Organism: Diatoms

Fragilaria	79%
Diatoma	10%
Cyclotella	4%
Melosira	3%
Navicula	1%
Stephanodiscus	1%
Gomphonema	less than 1%
Nitzschia	"
Synedra	"
Cocconeis	"
Rhoicosphenia	"
Chlorophyta	
Closterium	"

Sample No. 72 - Below Deep Creek, River Mile 199±. depth = 5 ft.
Date = 7/20/64 Estimated percent from 4 field counts. 281 organisms.
Organism: Diatoms

Fragilaria	76%
Diatoma	8%
Cyclotella	6%
Stephanodiscus	2%
Synedra	2%
Cocconeis	2%
Navicula	1%
Melosira	1%
Gomphonema	1%
Nitzschia	less than 1%
Asterionella	"

Sample No. 73 - Below Deep Creek, River Mile 199±. depth = 25 ft.
Date = 7/20/64 Estimates from 3 field counts of the slide. 249 organisms:
Organism: Diatoms

Fragilaria	72%
Diatoma	7%
Melosira	6%
Cyclotella	4%
Navicula	3%
Stephanodiscus	2%
Gomphonema	2%
Synedra	1%
Surirella	1%
Rhoicosphenia	1%
Nitzschia	less than 1%
Cymbella	"
Cocconeis	"
Amphora	"

Sample No. 74 - Below Deep Creek, River Mile 199±. depth = 50 ft.
Date = 7/20/64 Estimates from 3 field counts. 331 organisms.
Organism: Diatoms

Fragilaria	71%
Gomphonema	10%
Diatoma	7%
Melosira	5%
Cyclotella	4%
Navicula	1%
Nitzschia	less than 1%
Stephanodiscus	"
Synedra	"
Cocconeis	"

Sample No. 75 - Below Sand Creek, River Mile 228±. depth = 5 ft.
Date = 7/20/64 Estimates from 3 field counts. 187 organisms.
Organism: Diatoms

Fragilaria	76%
Cyclotella	5%
Diatoma	4%
Stephanodiscus	3%
Navicula	3%
Melosira	3%
Synedra	2%
Nitzschia	2%
Cocconeis	1%
Cymbella	less than 1%
Gomphonema	"
Cyanophyta	
Anacystis	"